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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,506	07/03/2001	Matthew B. Wall	2767.2001-004	4010

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EXAMINER	
HO, ANDY	

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/898,506	WALL ET AL.	
	Examiner	Art Unit	
	Andy Ho	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/27/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed 12/10/2004.

2. Claims 1-21 have been examined and are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glass U.S Patent No. 6,629,128.

As to claim 1, Glass teaches a method comprising generating data objects and/or function objects (generates a set of objects to be uploaded to client-side includes proxy object 154, type object 170, set of function objects 172, reference object 158, and set of streamers 180, lines 24-34 column 17; generates type object 204 of server, lines 65-67 column 15);

publishing references to the data objects and/or the function objects (referencing the objects of client to communicate with objects of server, lines 30-45 column 13);

subscribing to the data objects and/or the functions by creating relationships between the data objects and/or the function objects (linking of proxy object 154 , type object 170 and reference object 158, Fig. 8; lines 22-26 column 14) through referencing

the data objects and/or the function objects within the function objects (places hardcoded communication protocol information in reference layer 136 where a reference object 158 handles the communication protocol details, reference object 158 is bound to remote proxy 154 as remote proxy 154 is generated, lines 30-36 column 13), thereby linking the data objects and/or the function objects (linking of proxy object 154 , type object 170 and reference object 158, Fig. 8; lines 22-26 column 14), wherein networks of linked data objects and/or function objects emerge (network of client objects and server objects, Fig. 8);

storing the data objects and/or the function objects in a distributed manner across multiple computing devices on a computer network (objects being stored in client and server through the network 106, Figs. 8-9);

defining a data object as an input data object and a data object as an output data object to a search engine (proxy object 154 of the client requests ORB 114 to locate server object 110, Fig. 8; ORB receive messages and determine the location of the receiving object, route the message to the receiving object, lines 4-7 column 3), the search engine generating changes to the input data object until the output data object satisfies a predefined criteria (ORB performs all necessary platform and language translations, lines 4-7 column 3);

wherein the emergent networks of linked data objects and/or function objects (client objects and server objects, Figs. 8-9) are independently published to, and subscribed to, in a manner free of a globally predefined network of data objects and/or

function objects, thereby generating the emergent model (dynamically generates remote proxy classes as needed at run-time, lines 52-53 column 6).

Glass does not explicitly teach sending messages when object change and solving the functions when the messages are received. However, Glass teaches the system includes ORB configured to receive messages which is typically a request sent to an object to change its state or to return a value, wherein the object has encapsulated methods to implement the response to the received message (lines 7-10 column 3). Moreover, Glass teaches a distributed client/server system wherein the server object being invoked by the client to perform services. Therefore one of ordinary skill in the art would conclude that the server object after changing its state using the encapsulated methods, it would send back a message of result to the client because the client needs to incorporate the result into the running application.

As to claim 2, Glass as modified further teaches a part of the configuration of the networks of linked data objects and/or function objects is predefined (client sends request to direct access the server object, lines 1-3 column 6) and used to determine which data objects and/or function objects are generated on which of the computing devices in the computer network (objects 154, 158 and 170 being generated in the client while object 200 and 204 being generated in the server, Figs. 8-9).

As to claim 3, Glass as modified further teaches a user interface displays the objects on a computing device (user interface of the client system, lines 23-35 column 5; client application 108 may be an applet uploaded from server system 104, client is a personal computer connected to the Internet and a web server hosting web pages and

other network resources, line 66 column 11 to line 20 column 12) on the computer network (computer network of Fig. 8) using a client process that communicates with a server process (request from the client application 108 to invoke server object 110, Fig. 8) wherein the objects can be viewed on any computing device connected to the computer network.

As to claim 4, Glass as modified further teaches the objects are stored in logical groups (objects 154, 158 and 170 being stored in the client while object 200 and 204 being stored in the server, Figs. 8-9).

As to claim 5, Glass as modified further teaches the references to the objects are published using electronic media (through network 106, Fig. 8).

As to claim 6, Glass as modified further teaches an interface mapping for data objects and/or function objects stored in application programs (characterized by their interface which defines the elements necessary for proper communication between objects, lines 29-31 column 1).

As to claim 7, Glass as modified further teaches the function objects are implemented by computer code that is complied, dynamically linked and evaluated at runtime (dynamically generates remote proxy classes as needed at run-time, lines 51-53 column 6).

As to claim 8, Glass as modified further teaches the function objects are implemented by computer code that is interpreted and evaluated at runtime (dynamically generates remote proxy classes as needed at run-time, lines 51-53 column 6).

As to claim 9, Glass as modified further teaches the sending of messages can be enabled based on predefined criteria (proxies in general are responsible for encoding a request and its arguments and sending the encoded request to the subject object that may exist in a different address space, lines 24-27 column 6).

As to claim 10, Glass as modified further teaches the criteria is based upon message source, message destination, message contents (the messages sent between client application 108 and server object 110 may include a method invocation to invoke a particular method on server object 110 and may include the server object name, the method name or number to be invoked, and any other arguments or data needed by the invoked method, lines 25-31 column 12).

As to claim 11, it is a method claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above. Glass as modified further teaches wherein the relationships between the objects are created using multiple coordinating computing devices on the computer network (objects are being generated on both client and server, Figs. 8-9).

As to claims 12-20, they are method claims of claims 2-10, respectively. Therefore, they are rejected for the same reasons as claims 2-10 above.

As to claim 21, Glass as modified further teaches a search engine for performing any one or combination of searching, evaluating and optimizing a decentralized model (proxy object 154 of the client requests ORB 114 to locate server object 110, Fig. 8; ORB receive messages and determine the location of the receiving object, route the message to the receiving object, lines 4-7 column 3).

Response to Arguments

4. Applicant's arguments filed 12/10/2004 have been fully considered but they are not persuasive.

Applicant argued that Glass does not teach an emergent model of a physical system (Remarks, first paragraph page 9). In response, generating an emergent model of a physical system is not brought out in the claim.

Applicant argued that Glass does not teach relationships in emergent models may be functional, referential or procedural (Remarks, second paragraph page 9). In response, applicant is arguing limitations not brought out in the claim.

Applicant argued that Glass does not teach publishing references to and subscribing to objects (Remarks, last paragraph page 9). In response, as disclosed in claim rejection above, Glass teaches (lines 30-45 column 13; lines 22-26 column 14) the concept of referencing the objects of client to communicate with objects of server. The reference meets the limitation as claimed.

Applicant argued that Glass does not teach, "defining data objects... satisfies predefined criteria" (Remarks, first paragraph page 10). In response, Glass teaches (lines 3-13 column 3) the ORB performs object locating whenever receiving input requests. The reference meets the limitation as claimed.

Applicant argued that Glass does not teach solving functions within function objects based on the receipt of the message (Remarks, second paragraph page 10). In response, Glass teaches the system includes ORB configured to receive messages which is typically a request sent to an object to change its state or to return a value,

wherein the object has encapsulated methods to implement the response to the received message (lines 7-10 column 3). The reference meets the limitation as claimed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy Ho whose telephone number is (571) 272-3762. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Any response to this action should be mailed to:

Commissioner for Patents

P.O Box 1450

Alexandria, VA 22313-1450

Or fax to:

- AFTER-FINAL faxes must be signed and sent to (703) 872 - 9306.
- OFFICAL faxes must be signed and sent to (703) 872 - 9306.
- NON OFFICAL faxes should not be signed, please send to (571) 273 – 3762

A.H
April 28, 2005

SUE LAO
PRIMARY EXAMINER